

## REMARKS

Reconsideration and allowance are respectfully requested.

### Remarks Regarding Claim Amendment

Support for the amendment to claim 1 may be found throughout the Specification as originally filed, such as, for example, in paragraph [0087] and paragraph [0090] of the published Application (corresponding to page 31, lines 9-12 and page 32, lines 24-25 of the Specification as filed). No new matter is added. Entry of the amendment is respectfully requested.

### Election/Restriction

The Examiner has indicated that claims 23-25 are withdrawn because if they had been submitted earlier, they will be subjected to a species election. The Examiner states “if these four mutually exclusive embodiments (the first alloy can only be one of these alloy systems) had been originally presented a species restriction would have been issued, requiring applicant to select a single species for examination on the merits . . .” Applicants have marked claims 23-25 as withdrawn to reflect their status. Applicant respectfully remind the Examiner that there is an obligation to examine the other species (SnPb, SnBi, and SnZn) if the current species (SnAg) is found to be allowable.

### Section 102

A claim is anticipated only if each and every limitation as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of Calif.*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is claimed. See *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Claims 1-5, 15 and 19 stand rejected under 35 U.S.C. 102 as allegedly anticipated by Jiang (U.S. Publication 20030119299). Applicants traverse.

The claims are not anticipated at least because claim 1, as amended, recites that the second metal layer is limited to the material of Cu and the thickness of the material is 3µm or

more. Jiang does not teach this limitation. In fact, Jiang's claims 1, 5, 10 and 12 and the specification on paragraph [0049] specifies that the thickness of the layers should be one micron. See, for example, paragraph [0049] of Jiang where it is specified that "a thin layer having a thickness of approximately one (1) micro must be used for the ball 40." Since this limitation of amended claim 1 is not disclosed by Jiang, there can be no anticipation of claim 1. The other claims, including claims 2-5, 15 and 19, depend on claim 1, incorporate the recitations of claim 1 and are not anticipated for the same reasons as claim 1.

Withdrawal of the Section 102 rejection is requested because the cited document fails to disclose all limitations of the claimed invention.

### Section 103

A claimed invention is unpatentable if the differences between it and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. *In re Kahn*, 78 USPQ2d 1329, 1334 (Fed. Cir. 2006) citing *Graham v. John Deere*, 148 USPQ 459 (1966). The *Graham* analysis needs to be made explicitly. *KSR v. Teleflex*, 82 USPQ2d 1385, 1396 (2007). It requires findings of fact and a rational basis for combining the prior art disclosures to produce the claimed invention. See *id.* ("Often, it will be necessary for a court to look to interrelated teachings of multiple patents . . . and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue"). The use of hindsight reasoning is impermissible. See *id.* at 1397 ("A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning"). Thus, a *prima facie* case under Section 103(a) requires "some rationale, articulation, or reasoned basis to explain why the conclusion of obviousness is correct." *Kahn* at 1335; see *KSR* at 1396.

Claims 6-11 stand rejected under 35 U.S.C. 103 as allegedly obvious in view of Jiang (U.S. Publication 20030119299), and Pfarr (U.S. Publication 20050008525). Applicants traverse.

As stated above, the claim 1 is amended to limited the second layer to the material of Cu and the thickness of the material is 3µm or more to prevent this Cu second metal layer from

disappearing by diffusion of Cu into the first metal layer made of the first alloy containing Sn and diffusion of Sn from the first metal layer.

Jiang does not teach or suggest the above features of the present invention of amended claim 1. Instead, Jiang teaches that each of the outer layers forming the layer 44 has a thickness of 1  $\mu\text{m}$ , so that any damage to any of all the outer layers forming the out layer 44 cannot substantially affect the overall diameter of the ball 40 (See, Jiang, paragraph 0049). The claimed thickness of 3  $\mu\text{m}$  or more is neither taught nor suggested by Jiang. Furthermore, by stating that the coating must be of 1  $\mu\text{m}$ , Jiang teaches against a coating of 3  $\mu\text{m}$  or more. Thus, the claimed invention is not obvious in view of Jiang. Pfarr does not cure the defects of Jiang because Pfarr was used by the examiner to its alleged teachings of alloys. Like Jiang, Pfarr fails to address or even appreciate the claimed coating thickness of 3  $\mu\text{m}$  or more. For these reasons, the claim 1 is not obvious in view of the cited references. Moreover, claims depending from independent claim 1, including claims 6-11, are also not rendered obvious by the cited documents because all limitations of the independent claim are incorporated in its dependent claims. M.P.E.P. § 2143.03 citing *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988).

Withdrawal of the Section 103 rejections is requested because the claims would not have been obvious to one of ordinary skill in the art when this invention was made.

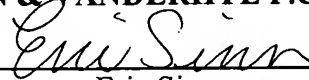
*Conclusion*

Having fully responded to the pending Office Action, Applicants submit that the claims are in condition for allowance and earnestly solicit an early Notice to that effect. The Examiner is invited to contact the undersigned if additional information is required.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By: \_\_\_\_\_



Eric Sinn

Reg. No. 40,177

901 North Glebe Road, 11th Floor  
Arlington, VA 22203-1808  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100